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Pasture Weaning Calves in a Rotational Grazing Demonstration with Beef Cows in Adams County in 2006

Chris Nelson
Iowa State University

Rick Sprague
Natural Resources Conservation Service

Brian Peterson
USDA Natural Resource Conservation Service

William Bartenhagen
Farm Service Agency

John Klein
National Resources Conservation Service

See next page for additional authors

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Abstract
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Authors
Chris Nelson, Rick Sprague, Brian Peterson, William Bartenhagen, John Klein, Stephen K. Barnhart, and Michael Olive

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Chris Nelson, education director
Adams County Extension
Rick Sprague, Adams County district conservationist, NRCS
Brian Peterson, grassland conservationist, NRCS
Bill Bartenhagen, Adams County FSA director
John Klein, NRCS project manager
Stephen K. Barnhart, professor
Department of Agronomy
Mike Olive, herdsman

Introduction

Weaning calves on grass is a management technique for reducing calf stress and decreasing health issues at weaning time in a beef cow/calf operation. 2006 was the third year for demonstrating this management technique at the Adams County CRP Research and Demonstration Project Farm near Corning, IA. This report highlights the 2006 grazing production data and compares it with 15 years of grazing production at that site.

Results and Discussion

On a 17-paddock, 57-acre, intensive rotational grazing system, 33 crossbred calves nursing crossbred dams gained 2.11 lb/head per day for 114 days in 2006. At the 114-day mark, the calves were pasture-weaned from the cows and given their own adjacent paddock. The calves were kept in the grazing system on pasture for another 21 days. They gained an average of an additional 72 lb/head after weaning. This raised their total gain on pasture to 313 pounds. The 135-day rate-of-gain was 2.32 lb/head per day. This rate of gain compares with calf rates of gain of 2.18 in 2005 and 2.30 in 2004 under similar management. This grazing system was originally built in 1991 as a two-system rotational-grazing comparison demonstration. Thirteen-year averages of 2.30 and 2.35 lb/head per day for a 13-paddock and 4-paddock system of previous years gives another reference point for this year's grazing production (Table 1). The stocking rate on the 2006 grazing system was set at .58 cow/calf pairs per acre or 1.73 acres per cow/calf pair. This stocking rate was greater than in 2005 and 2004, but still less than the normal stocking rate for the 13-paddock and 4-paddock system averages (Table 1). The 2004–2006 stocking rates were set at conservative levels to allow for lush, fresh paddocks for weaning in the fall.

In 2006, grazing started on May 2 for cows and calves, ended on September 14 for the calves and October 27 for the cows.

Precipitation in 2006 at the CRP Farm was 8.72 in. below the normal Corning weather station amounts during the grazing season. Forage growth and production did not allow for hay to be harvested from this system in 2006. However, no bales of hay were fed to the cows and calves in 2006. Hay production and use averages for these acres are shown in Table 2.

A balanced mineral ration was fed free choice throughout the summer to cows and calves. No creep feed was fed to calves while on the cow or during the initial weaning process. However, calves were fed one pound of creep feed per head per day as a bunk-training technique beginning on August 30.

Grazing management was guided by two principles: 1) graze less than 50% of the standing forage in each paddock and 2) let each paddock rest 25–30 days between

grazing periods. Under these management guides, cattle were rotated to a fresh paddock 113 times during the 178 days of grazing in 2006.

In preparation for weaning, calves were vaccinated with IBR, PI3, BVD, BRSV, 7-way clostridial, haemophilis, and pasturella vaccines on August 2.

Calves were weaned from the cows on August 23 by sorting the cows into one fresh paddock and the calves into another adjoining fresh paddock. These paddocks were separated by a two-wire electric fence. The process was accomplished by two people in an electric fence alley. After weaning, portable feed bunks were put in the calf paddock to bunk train the calves beginning on August 30. The commercial creep ration was hand fed each day until removal from the rotational grazing system on September 13. A total of 500 pounds of creep feed was fed to the 33 calves. No calves were treated for sickness during this weaning process. The two-wire electric fence kept most cows and calves apart very well during the weaning process. One cow would not stay out of the calf paddock.

Total calf production per acre in 2006 was 181.21 lb of weight gain. This compares with 146.84 lb in 2005 and 150.42 lb in 2004. This is below the 13-year averages of both the 13- and 4-paddock systems at this same site. The stocking rate reduction for the transition to a pasture-weaning system is probably the biggest factor in this production difference. Grazing different cows and calves each year and the variation in rainfall may also explain the differences.

Following weaning, cows were grazed in the system until October 27, 2006. In order to keep the cows on the rotational grazing system after a hot and dry July 2006, the adjoining timber and ditch area was grazed for 13 days. This was an added input that had not been used before in grazing this system. Rains in August brought new grass growth in the paddocks and they were able to carry the cows the rest of the season.

Cows gained an average of 284.8 lb/head in 2006 (Table 1) and gained a condition score of 1.0 from start to finish. The supplemental grazing area and the good rains in August were contributing factors to the weight gain of the cows.

Table 1. Adams County CRP Project 13-year production data on 13- and 4-paddock grazing systems with cow/calf pairs compared with 2004, 2005, and 2006 pasture weaning cow/calf production data.

	13-paddock grazing system 13-year avg. (1991–2003)	4-paddock grazing system 13-year avg. (1991–2003)	2004 pasture weaning demonstration	2005 pasture weaning demonstration data	2006 Pasture weaning demonstration data
Acres in system	34.60	22.40	57.00	57.00	57.00
No. of pairs	22.00	13.23	27.00	30.00	33.00
Pairs/acre	0.63	0.59	0.47	0.53	0.58
Acres/pair	1.57	1.69	2.11	1.90	1.73
Days grazed	145	144	171	173	178
Calf beg. wt. (lb)	138.51	140.53	138.04	146	186
Calf ADG	2.30	2.35	2.30	2.18	2.32
Avg. calf gain	333.57	338.01	317.38	279	313
Calf gain/acre	211.73	199.42	150.42	146.84	181.21
Cow beg. wt. (lb)	1145.56	1139.27	1224.48	1264	1168
Cow wt. chg.	61.08	76.46	141.83	32.4	284.8
Cow cond. chg.	0.29	0.25	NA	+0.5	+1.0
Cow days/acre	91.78	84.92	79.96	91.05	103.05

Table 2. Hay production and use, Adams County CRP Farm. Production is reported in large round bales weighing approximately 1,500 pounds.

	13-year average	2005	2006
13-paddock system			
Produced	7.3	8	0
Fed	6.3	0	0
Net hay	1.0	8	0
4-paddock system			
Produced	4.8	0	0
Fed	4.1	0	0
Net hay	0.7	0	0